

WHAT IS CLAIMED IS:

1. A gateway card that is connected to an information processor and that receives and transmits data between different networks, the gateway card comprising:

5 an access accepting unit that accepts an access request from an apparatus connected to the networks; and

an access control unit that leads the apparatus to make access to an external apparatus in a state that the operation of the information processor is maintained in a power-saving operation mode, when the
10 access request is accepted in a state that the operation of the information processor is in a power-saving operation mode and also when the access request corresponds to the access to the external apparatus.

15 2. The gateway card according to claim 1, wherein when the access request is accepted in a state that the operation of the information processor is in a power-saving operation mode and also when the access request corresponds to the access to the information processor, the access control unit leads the apparatus to make access
20 to the information processor in a state that the operation mode is returned from the power-saving operation mode to the normal operation mode, and shifts the operation mode from the normal operation mode to the power-saving operation mode after the access ends.

3. A gateway card connected to an information processor and that receives and transmits data between different networks, the gateway card comprising:
- an access accepting unit that accepts an access request from
 - 5 an apparatus connected to the networks; and
 - an access control unit that leads the apparatus to make access to the information processor in a state that the operation mode is returned from the power-saving operation mode to the normal operation mode, when the access request corresponds to the access to the
 - 10 information processor, and shifts the operation mode from the normal operation mode to the power-saving operation mode after the access ends.
4. A gateway control method to be applied to a gateway card
- 15 connected to an information processor and that receives and transmits data between different networks, the gateway control method comprising:
 - an access request receiving step of receiving an access request from an apparatus connected to the networks; and
 - 20 an access control step of leading the apparatus to make access to an external apparatus in a state that the operation of the information processor is maintained in a power-saving operation mode, when the access request is accepted in a state that the operation of the information processor is in a power-saving operation mode and also
 - 25 when the access request corresponds to the access to the external

apparatus.

5. The gateway control method according to claim 4, wherein when the access request is accepted in a state that the operation of the information processor is in a power-saving operation mode and also when the access request corresponds to the access to the information processor, at the access control step, the apparatus is led to make access to the information processor in a state that the operation mode is returned from the power-saving operation mode to the normal operation mode, and the operation mode is shifted from the normal operation mode to the power-saving operation mode after the access ends.

6. A gateway control method to be applied to a gateway card connected to an information processor and that receives and transmits data between different networks, the gateway control method comprising:

an access request receiving step of receiving an access request from an apparatus connected to the networks; and
an access control step of leading the apparatus to make access to the information processor in a state that the operation mode is returned from the power-saving operation mode to the normal operation mode, when the access request corresponds to the access to the information processor, and shifting the operation mode from the normal operation mode to the power-saving operation mode after the access

ends.

7. A gateway control program to be applied to a gateway card connected to an information processor and that receives and transmits data between different networks, the gateway control program comprising the steps of:

making an access accepting unit accept an access request from an apparatus connected to the networks; and

making an access control unit lead the apparatus to make access to an external apparatus in a state that the operation of the information processor is maintained in a power-saving operation mode, when the access request is accepted in a state that the operation of the information processor is in a power-saving operation mode and also when the access request corresponds to the access to the external apparatus.

8. The gateway control program according to claim 7, wherein when the access request is accepted in a state that the operation of the information processor is in a power-saving operation mode and also when the access request corresponds to the access to the information processor, the access control unit leads the apparatus to make access to the information processor in a state that the operation mode is returned from the power-saving operation mode to the normal operation mode, and shifts the operation mode from the normal operation mode to the power-saving operation mode after the access ends.

9. A gateway control program to be applied to a gateway card connected to an information processor and that receives and transmits data between different networks, the gateway control program comprising the steps of:
- 5 making an access accepting unit accept an access request from an apparatus connected to the networks; and
- making an access control unit lead the apparatus to make access to the information processor in a state that the operation mode is returned from the power-saving operation mode to the normal
- 10 operation mode, when the access request corresponds to the access to the information processor, and shifts the operation mode from the normal operation mode to the power-saving operation mode after the access ends.
- 15 10. A gateway device with an information processor, and a gateway section connected to the information processor and that receives and transmits data between different networks, the gateway section comprises:
- an access accepting unit that accepts an access request from
- 20 an apparatus connected to the networks; and
- an access control unit that leads the apparatus to make access to an external apparatus in a state that the operation of the information processor is maintained in a power-saving operation mode, when the access request is accepted in a state that the operation of the
- 25 information processor is in a power-saving operation mode and also

when the access request corresponds to the access to the external apparatus, and

the information processor further includes a power control unit that shifts the operation mode from a normal operation mode to the power-saving operation mode, when a predetermined shift factor occurred.

11. The gateway device according to claim 10, wherein when the access request is accepted in a state that the operation of the information processor is in a power-saving operation mode and also when the access request corresponds to the access to the information processor, the access control unit issues a return notice to return the operation of the information processor from the power-saving operation mode to the normal operation mode, then leads the apparatus to make access to the information processor, and issues a shift notice to shift the operation mode from the normal operation mode to the power-saving operation mode after the access ends, and the power control unit returns the operation mode from the power-saving operation mode to the normal operation mode based on the return notice, and shifts the operation mode from the normal operation mode to the power-saving operation mode based on the shift notice.

12. A gateway device with an information processor, and a gateway section connected to the information processor and that receives and transmits data between different networks, the gateway section

comprises:

an access accepting unit that accepts an access request from an apparatus connected to the networks; and

an access control unit that issues a return notice to return the operation of the information processor from the power-saving operation mode to the normal operation mode, and leads the apparatus to make access to the information processor, when the access request corresponds to the access to the information processor, and issues a shift notice to shift the operation mode from the normal operation mode to the power-saving operation mode after the access ends, and

the information processor further includes a power control unit that returns the operation mode from the power-saving operation mode to the normal operation mode based on the return notice, and shifts the operation mode from the normal operation mode to the power-saving operation mode based on the shift notice.

13. A gateway control method to be applied to a gateway device with an information processor, and a gateway section connected to the information processor and that receives and transmits data between different networks,

the gateway section executes the steps comprising:

an access request receiving step of receiving an access request from an apparatus connected to the networks; and

an access control step of leading the apparatus to make access to an external apparatus in a state that the operation of the

information processor is maintained in a power-saving operation mode,
when the access request is accepted in the state that the operation of
the information processor is in the power-saving operation mode and
also when the access request corresponds to the access to the external
5 apparatus, and

the information processor executes a power control step of
shifting the operation mode from a normal operation mode to the
power-saving operation mode, when a predetermined shift factor
occurred.

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14. The gateway control method according to claim 13, wherein
when the access request is accepted in a state that the operation of the
information processor is in a power-saving operation mode and also
when the access request corresponds to the access to the information
15 processor, at the access control step, a return notice to return the
operation of the information processor from the power-saving operation
mode to the normal operation mode, is issued, then the apparatus is led
to make access to the information processor, and a shift notice to shift
the operation mode from the normal operation mode to the
20 power-saving operation mode after the access ends, is issued, and at
the power control step, the operation mode is returned from the
power-saving operation mode to the normal operation mode based on
the return notice, and the operation mode is shifted from the normal
operation mode to the power-saving operation mode based on the shift
25 notice.

15. A gateway control method to be applied to a gateway device with an information processor, and a gateway section connected to the information processor and that receives and transmits data between different networks,

5 the gateway section executes the steps comprising:

an access request receiving step of receiving an access request from an apparatus connected to the networks; and

an access control step of issuing a return notice to return the operation of the information processor from the power-saving operation mode to the normal operation mode, and leading the apparatus to make access to the information processor, when the access request corresponds to the access to the information processor, and issuing a shift notice to shift the operation mode from the normal operation mode to the power-saving operation mode after the access ends, and

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the information processor further executes the steps comprising:

a power control step of returning the operation mode from the power-saving operation mode to the normal operation mode based on the return notice, and shifting the operation mode from the normal operation mode to the power-saving operation mode based on the shift notice.

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16. A gateway control program to be applied to a gateway device with an information processor, and a gateway section connected to the information processor and that receives and transmits data between

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different networks, the gateway control program comprising the steps of:

making an access accepting unit accept an access request from an apparatus connected to the networks;

5 making an access control unit lead the apparatus to make access to an external apparatus in a state that the operation of the information processor is maintained in a power-saving operation mode, when the access request is accepted in a state that the operation of the information processor is in a power-saving operation mode and also
10 when the access request corresponds to the access to the external apparatus; and

making a power control unit shift the operation mode from a normal operation mode to the power-saving operation mode, when a predetermined shift factor occurred.

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17. The gateway control program according to claim 16, wherein when the access request is accepted in a state that the operation of the information processor is in a power-saving operation mode and also when the access request corresponds to the access to the information
20 processor, the access control unit issues a return notice to return the operation of the information processor from the power-saving operation mode to the normal operation mode, then leads the apparatus to make access to the information processor, and issues a shift notice to shift the operation mode from the normal operation mode to the
25 power-saving operation mode after the access ends, and the power

control unit returns the operation mode from the power-saving operation mode to the normal operation mode based on the return notice, and shifts the operation mode from the normal operation mode to the power-saving operation mode based on the shift notice.

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18. A gateway control program to be applied to a gateway device with an information processor, and a gateway section connected to the information processor and that receives and transmits data between different networks, the gateway control program comprising the steps

10 of:

making an access accepting unit accept an access request from an apparatus connected to the networks;

making an access control unit issue a return notice to return the operation of the information processor from the power-saving operation mode to the normal operation mode, and lead the apparatus to make access to the information processor, when the access request corresponds to the access to the information processor, and issues a shift notice to shift the operation mode from the normal operation mode to the power-saving operation mode after the access ends, and

20 making a power control unit return the operation mode of the information processor from the power-saving operation mode to the normal operation mode based on the return notice, and shift the operation mode of the information processor from the normal operation mode to the power-saving operation mode based on the shift notice.

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19. A gateway card that interconnects an information processor, at least one server via a first network, and at least one client via a second network, the first network and the second network having different communication protocols, the information processor having a normal power mode and a power save mode, the gateway card comprising:

5 an access accepting unit that accepts a request from the client to access the server or the information processor;

a power mode checking unit that determines whether the information processor is in the normal power mode or in the power save

10 mode; and

an access control unit that executes the request from the client, wherein if the request from the client is a request to access the server, the access control unit executes the request even if the power mode checking unit determines that the information processor is in the power

15 save mode.

20. A gateway card that interconnects an information processor, at least one server via a first network, and at least one client via a second network, the first network and the second network having different communication protocols, the information processor having a normal power mode and a power save mode, the gateway card comprising:

20 an access accepting unit that accepts a request from the client to access the server or the information processor;

a power mode checking unit that determines whether the

25 information processor is in the normal power mode or in the power save

mode; and

an access control unit that executes the request from the client, wherein if the request from the client is a request to access the information processor and, if the power mode checking unit determines
5 that the information processor is in the power save mode, the access control unit instructs the information processor to change the power mode to the normal power mode, executes the request, and instructs the information processor to change the power mode to the power save mode.

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